



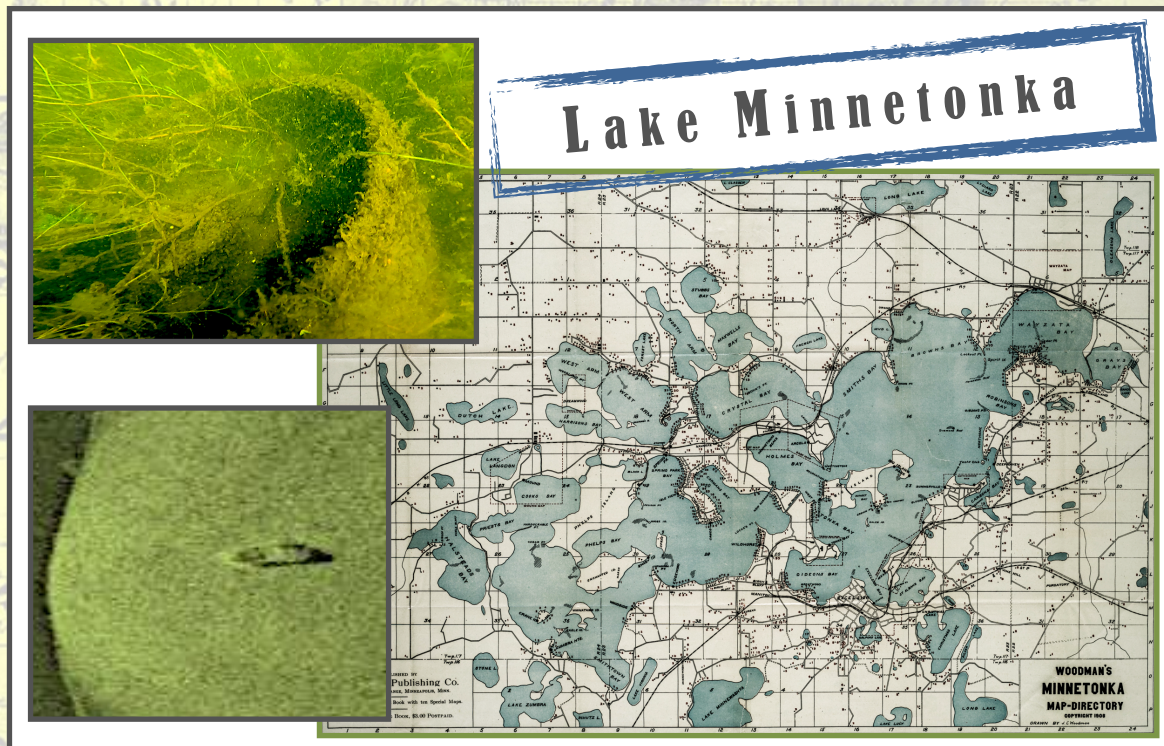
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DOCUMENTATION, CONSERVATION, AND  
PRESERVATION OF MINNESOTA'S FINITE  
MARITIME CULTURAL RESOURCES

Ann Merriman  
Christopher Olson

Minnesota Archaeology License  
24-197

Lake Minnetonka Nautical Archaeology Project Series 12

# Lake Minnetonka Underwater Archaeology Project 12



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Ann Merriman, Christopher Olson, and Maritime Heritage Minnesota



## Acknowledgments

Maritime Heritage Minnesota (MHM) thanks Bruce Koenen and Amanda Gronhvd of the Office of the State Archaeologist for their efforts. MHM could not have completed this project without the in-kind support of volunteer divers Josh Knutson and Kelly Nehowig. MHM thanks these talented and ethical men for their time and skill. This project could not have been completed in a timely fashion without the consideration of Michael and Karen Kramer; the use of their Lake Minnetonka boathouse for research boat *Anomaly 51* is greatly appreciated. Lastly, MHM thanks our Board of Trustees Michael F Kramer, Deb Handschin, and Steve Hack for their continued support.

Underwater Archaeologist  
Christopher Olson



Underwater Archaeologist  
Ann Merriman

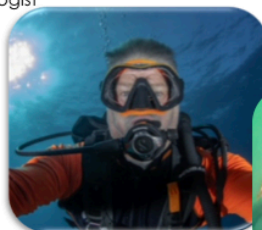


Volunteer Diver  
Mark Slick



Volunteer Diver  
Kelly Nehowig

Volunteer Diver  
Josh Knutson



Volunteer Diver  
Greg Flanagan



Volunteer Diver  
Ed Nelson

Mascots & Computing Cats



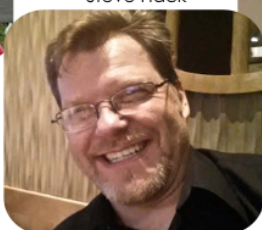
Freddie  
Mercury Cat  
&  
Rodney  
McKay Cat



MARITIME  
HERITAGE  
MINNESOTA



Volunteer Dive Crew  
Ann Nehowig



Trustee  
Steve Hack



Trustee  
Deb Handschin



Chair  
Mike Kramer

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*“A small St. Paul-based nonprofit, Maritime Heritage Minnesota (MHM), re-establish[ed] the discipline of underwater archaeology in Minnesota....MHM...conducts groundbreaking nautical archeological and maritime historical research.”*

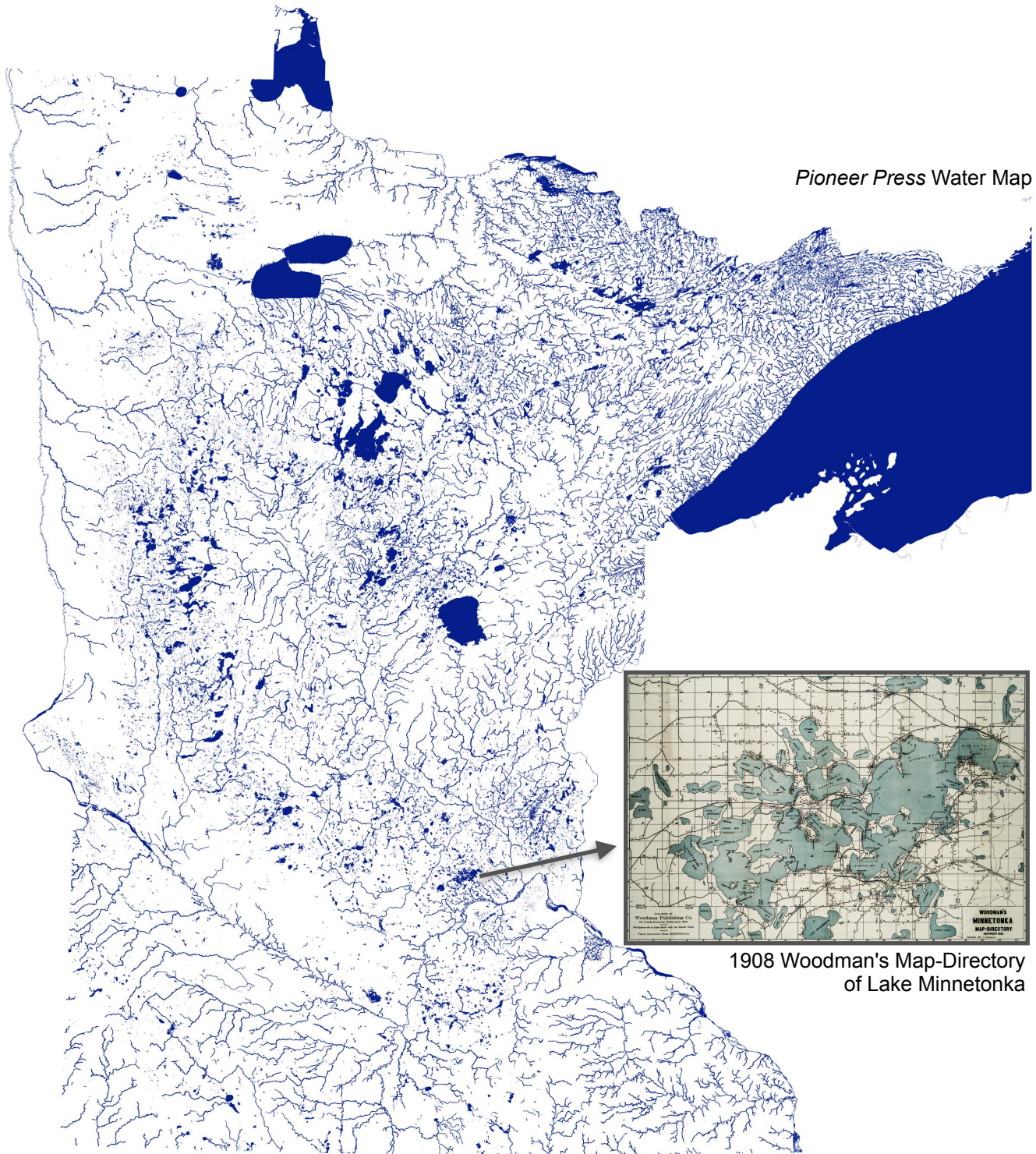
*~Steve Elliott, Former Minnesota Historical Society CEO and Director, January 2015*

## **Introduction**

Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statutes as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of *State v. Bollenbach* (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State, universities, or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).

MHM completed a side and down-imaging sonar survey of Lake Minnetonka in 2011-2012, and a second survey of the entire lake utilizing significantly improved technology is nearly complete. Additionally, MHM conducts targeted sonar recordings in order to produce images with more clarity and to refine location coordinates. Prior to the beginning of MHM's work, there was one recognized nautical archaeological site - the *White Bear Wreck* - in Lake Minnetonka and another five wrecks were known by the OSA. Now, after MHM's work between 2012-2024, there are 96 known wrecks and dozens of maritime sites and other objects documented on the lake bottom. Not all the wrecks or maritime sites have Minnesota Archaeological Site Numbers at this time, but eventually all the wrecks will all qualify for site status. MHM has also conducted Phase II maritime terrestrial fieldwork on Big Island (21-HE-402), a Phase II underwater documentation of the Unfinished Dakota Dugout Canoe Wreck (21-HE-557), and has successfully nominated the Wayzata Bay Wreck to the National Register of Historic Places (Merriman and Olson, 2024, 2022a-b, 2019-B, 2018, 2017, 2016, 2015a-d, 2014, 2013a-b, 2012a-b). Regardless, all wrecks in public waters are protected by the State of Minnesota and the Abandoned Shipwrecks Act.







## Preface

During the LMNA-12 Project in September and October of 2024, the scope of the fieldwork was hindered by an underwater archaeologist's broken finger and the fact that research boat *Anomaly 51*'s towing SUV burst into flames and was destroyed. Therefore, these unforeseen circumstances limited the number of MHM's working days on the lake and only 7 anomalies were investigated during the season.

## Results of the Lake Minnetonka Underwater Archaeology Project 12 (LMNA-12) Minnesota Archaeology License 24-197

### Methodology

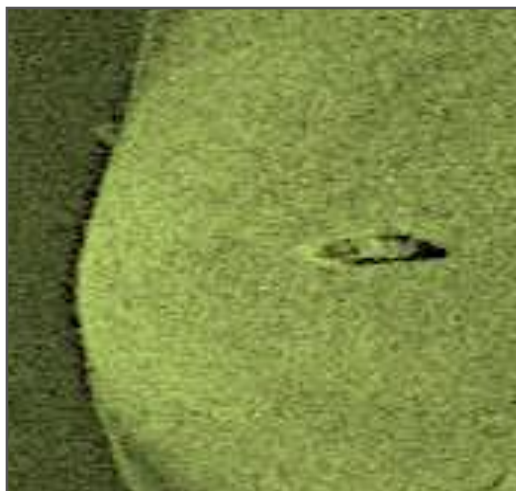
The methodology used to identify and rudimentarily document underwater archaeological anomalies is straightforward. MHM used the GPS coordinates of a wreck or an anomaly - taken from the data imbedded in the sonar data - to drop a weighted diver down buoy near the target. The dive boat anchored a short distance away from the buoy and divers geared up for the dive. At any given time, there were between two and three divers underwater. If the buoy anchor weight landed near and sometimes on the anomaly or wreck, no search for the target was conducted. However, for a variety of reasons, a brief search for the target was conducted until it was located or it was determined that the anomaly was a false sonar return. If a cultural or natural resource was located, the divers photographed and recorded video of the site or object, logged its basic measurements, examined any obvious attributes, and measured sediment build-up (if appropriate). The 7 anomalies examined using SCUBA during the LMNA-12 Project were A777, A1082, A1108, A1130, A1131, A1137, and one un-numbered object.

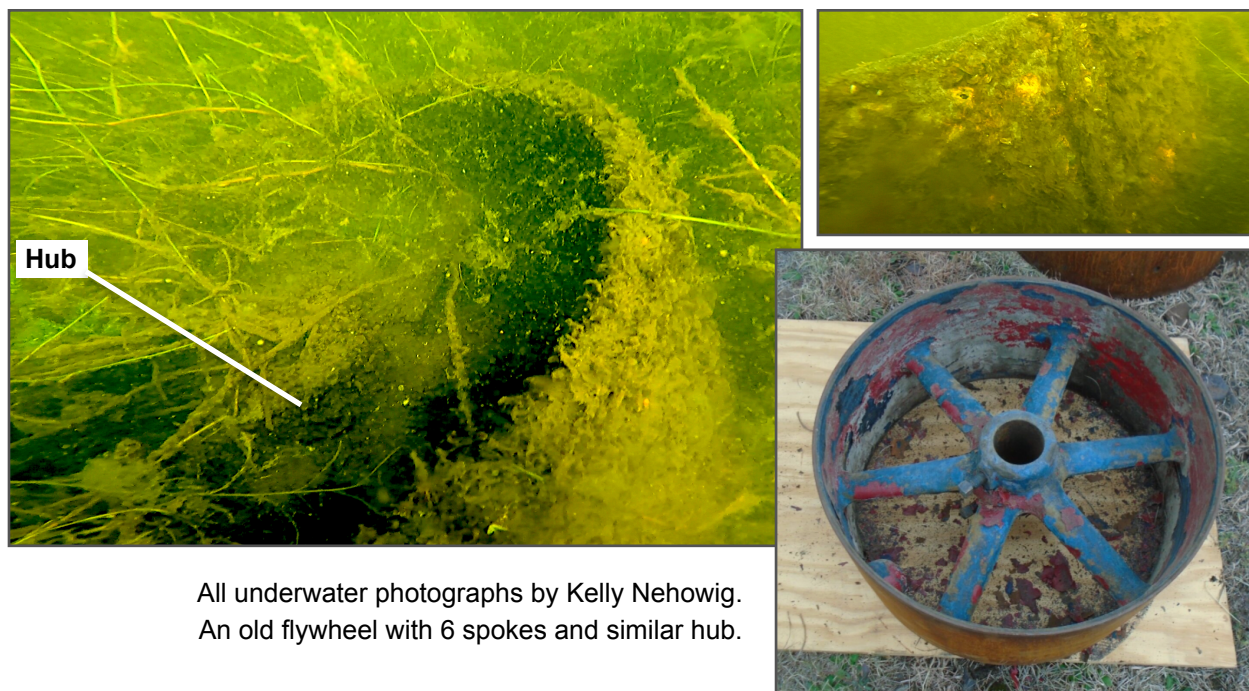
### Results

Reflective of the shortened fieldwork season explained above, no newly-identified wrecks were identified during the LMNA-12 Project. Only three dive targets proved to be cultural resources - Anomaly 777, Anomaly 1130, and the un-numbered object.

#### Metal Flywheel (Anomaly 777)

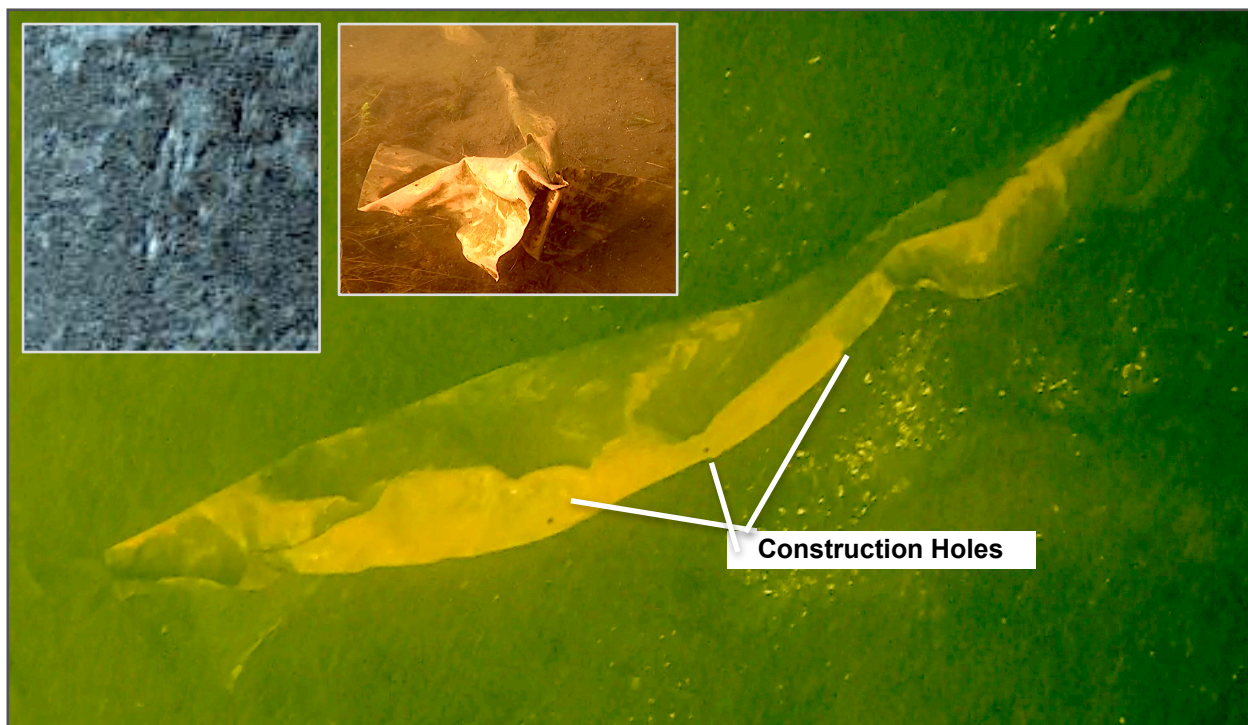
The acoustical signature of Anomaly 777 did not appear to be a wreck, but the sonar image was strong and defined, indicating it was a cultural resource. During SCUBA reconnaissance, A777 was located and it is a good-sized Metal Flywheel. It is the type that was used in steam tractors in the late 19th and early 20th Centuries. This type of object finds its way to the bottom of lakes when they are used as part of engines that were used for cutting ice, timber, and other activities. Anomaly 777 is 2.50 feet in diameter, 1.30 wide, a sturdy hub, and has 6 spokes.





### **Crumpled Aluminum Sheet (Anomaly 1130)**

The acoustical signature of Anomaly 1130 appeared to be a canoe wreck. During the first dive on the object in low visibility, it was thought to be a canoe. However, upon returning to the site on a day with improved visibility, additional video footage confirmed with MHM that A1130 is a Crumpled Aluminum Sheet used in shed walls or roofs. There are three visible rivet, screw, or nail holes in the edge of the piece, and it is 12.00 feet long and 2.00 feet wide.





## **Invasive Species Monitoring Station**

MHM's volunteer Kelly Nehowig located a zebra mussel-covered object that resembled an engine while sport diving in Lake Minnetonka. It was puzzling since it did not appear in recent sonar footage, but after diving on the object and investigating it closely, it was obviously an Invasive Species Monitoring Station, and it is comprised of metal and wood.



## **Anomaly 1131**

Anomaly 1131 has the distinctive acoustical signature of a wreck, likely made from wood. MHM attempted to locate the anomaly on two different days, but both times the visibility was so bad that it could not be located, even by touch. This anomaly will be re-visited, hopefully with improved lake conditions.



## **Anomalies 1108, 1137, 1082**

The sonar signature of A1108 strongly suggested it was a small wreck. Unfortunately, it was determined to be two branches from a tree that have formed a 'V' on the lake bottom. Anomaly 1137 is a bottom contour and is therefore a false target; A1082 is a false target as well.



## Conclusion

The LMNA-12 Project, however brief, allowed MHM to identify three unknown anomalies as human-made cultural resources. Further, MHM is convinced Anomaly 1131 is a small wreck; the coordinates of the anomaly will be re-confirmed and hopefully located in 2025.

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